## Contents

(† Only abstract is included; ‡ contributed paper for this volume; presenter in italics)

Acknowledgments Foreword	iii 1
Part 1. Overview	
<ul><li>1.1 The Early History of COADS (J.O. Fletcher)</li><li>1.2 The Importance of COADS for Global Reanalysis (R.L. Jenne)</li></ul>	5 9
Part 2. Improvement of the COADS Database	
2.1 Updating COADS-Problems and Opportunities	
(S.D. Woodruff, S.J. Lubker, and M.Y. Liu)	17
2.2 Status of NCDC Keying of Historical Marine Data (J.D. Elms)	35
2.3 The Collection of Historical Ships' Data in Kobe Marine Observatory	4.5
(T.Uwai and K. Komura)	45
2.4 Blending of COADS and UK Meteorological Office Marine Data Sets	57
(D.E.Parker) 2.5 Pussian Marine Matagralagical Data Set (V. P. Vydin, I.C. Vlyanish	37
2.5 Russian Marine Meteorological Data Set (K.B. Yudin, I.G. Ylyanich, (V.N. Popova, and Ye.M. Krakanovskaya; presented by V.N. Razuvaev)	69
2.6 Status of Other New Data Sets for COADS (S.J. Worley)	77
2.7 Sifting Out Erroneous Observations in COADS-The Trimming Problem	11
(K. Wolter)	87
2.8 An Analysis of Differences Between Ship and Buoy Observations	07
(U. Radok, S.J. Lubker, and T.J. Brown)	99
Part 3. Evaluation of COADS Wind Fields	
3.1 Thirty Years of Tropical Pacific Winds from COADS: The FSU Winds†	
(J.J. O'Brien)	113
3.2 The Quality of Ship Observations in the Equatorial Western Pacific	44.5
(M.L. Morrissey)	115
3.3 A Comparison of Surface Geostrophic Winds with COADS Ship Wind	107
Observations (H.F. Diaz, Fu C., and Quan X.)	127
3.4 Comparison of Estimated and Measured Marine Surface Wind Speed	127
(HJ. Isemer)  2.5 The Scientific Recufert Equivalent Scale: Effects on Wind Statistics and	137
3.5 The Scientific Beaufort Equivalent Scale: Effects on Wind Statistics and Climatological Air-Sea Flux Estimates in the North Atlantic Ocean	
(HJ. Isemer and L. Hasse)	151
3.6 Estimates of Wind Stress and Heat Fluxes with Bias Corrections	131
(A.M. da Silva, C.C. Young, and S. Levitus)	167
(11.11. du biiva, C.C. 10diig, and b. Levitus)	107

<ul> <li>3.7 The Wind Problem in COADS and Its Influence on the Water Balance (Z. Wu and R.E. Newell)</li> <li>3.8 Towards a Dynamically Constrained Analysis of Sea Level Pressure and Winds (Y. Kushnir, S.E. Zebiak, M.A. Cane, and R.L. Tagett)</li> </ul>	177 191
3.9 Statistical Analyses of COADS Wind Data in Coastal Regions of the United States‡ (F.A. Godshall and H.A. Walker)	205
Part 4. Evaluation of COADS Sea Surface Temperature Fields	
<ul> <li>4.1 Corrections to Pre-1941 SST Measurements for Studies of Long-Term Changes in SSTs (P.D. Jones and T.M.L. Wigley)</li> <li>4.2 Transformation of 2' into 5' Grids for Global SST Trend Analyses</li> </ul>	219
(A. Spekat)	233
4.3 Improvements to an SST Climatology Using COADS (D.J. Shea, K.E. Trenberth, and R.W. Reynolds)	241
4.4 Effect of Recent Volcanic Eruptions on Satellite-Derived Sea Surface Temperatures (R.W. Reynolds)	251
4.5 Preliminary Comparison of North Atlantic SST Anomalies Between COADS and AVHRR-Derived Fields (G.R. Halliwell)	257
Part 5. Evaluation of COADS Hydrological Variables	
<ul> <li>5.1 The Use of COADS Ship Observations in Cloud Climatologies (C.J. Hahn, S.G. Warren, and J. London)</li> <li>5.2 A Comparison of COADS and Nimbus-7 Cloud Statistics (B.C. Weare)</li> <li>5.3 Use of COADS in Global Water Budget Studies (R.E. Newell and Z. Wu)</li> </ul>	267 277 285
Part 6. COADS as an Analysis Tool I	
<ul> <li>6.1 What Can COADS Tell Us? Potential and Limitations (C.F. Ropelewski, D. Marsico, M. Chelliah, and T. Smith)</li> <li>6.2 The Value and Use of Averaged Homogenized Data Derived from COADS</li> </ul>	289
(P.B. Wright) 6.3 Intercomparison of Global Marine Climatologies (S.L. Grotch) 6.4 COADS as a Diagnostic Modeling Tools Air See Interaction and the Pole of the	297 301
6.4 COADS as a Diagnostic Modeling Tool: Air-Sea Interaction and the Role of the Deep Ocean in Climate Change (H.P. Hanson)  6.5 Manitoring Clobal Monthly Mann Synfoga Tomporature	309
6.5 Monitoring Global Monthly Mean Surface Temperature (K.E. Trenberth and J.W. Hurrell)	321
Part 7. COADS as an Analysis Tool II	
<ul> <li>7.1 Combined Southern Oscillation Index and Sea Surface Temperatures as Predictors of Seasonal Rainfall (J.S. Russell, I. Mcleod, and M.B. Dale)</li> <li>7.2 Effects of Arabian Sea Parameters on Indian Monsoon (S.S. Aralikatti)</li> <li>7.3 Scientific Work at MPI in Hamburg in Context with COADS (I. Jessel)</li> </ul>	331 339 347

(W. Drosdowsky)	349
Part 8. Computer Applications	
8.1 Climate Research Data Tools (CRDtools) and COADS	
(D.R. Mock and A.R. Messenger)	353
8.2 COADS Metalog: Dynamic COADS Documentation	
(W.R. Moninger, S.D. Woodruff, R.L. Fozzard, and R.J. Slutz)	359
8.3 Interactive Data Access System for Climate Researchers: The NASA Climate	
Data System Experience (J. R. Vanderpool)	371
Workshop Summary and Recommendations	373
Address List of Participants and Contributors	379

